What is Claimed is:

1. An electrochemical cell suitable for use in a membrane electrolysis process, comprising;
at least one anode compartment having a metal electrode capable of functioning as an anode;
a cathode compartment having a gas diffusion electrode capable of functioning as a cathode and;
an ion exchange membrane arranged between said anode compartment and said cathode compartment, wherein the metal electrode has at least one orifice for the passage of the gas formed during operation and said metal electrode optionally being angled and/or curved, and further wherein one or more of the orifices are provided with a guide structure which is capable of conducting gas formed to a side of the metal electrode facing away from said cathode compartment.

2. An electrochemical cell according to Claim 1, wherein the total cross-sectional area of the orifices is in the range from 20% to 70% of the area which is formed by the height and width of the metal electrode.

3. An electrochemical cell according to Claim 1, wherein the metal electrode has a corrugated, zigzag-shaped or rectangular cross section.

4. An electrochemical cell according to Claim 3, wherein the metal electrode has a depth of at least 1 mm.

5. An electrochemical cell according to Claim 1, wherein the metal electrode comprises two expanded metals adjacent to one another, wherein one expanded metal faces the cathode compartment and is more finely structured than a second expanded metal facing away from the cathode compartment, the more finely structured expanded metal being rolled flat and the second expanded metal being arranged such that mesh webs thereof are inclined in a direction of the cathode compartment and serve as said guide structures.

6. A metal electrode comprising:

at least one orifice that is provided with a guide, said guide being capable of conducting gas away from said metal electrode.

7. An electrode as claimed in Claim 6, wherein said metal electrode is angled and/or curved.

8. An electrode according to Claim 6, wherein the total cross-sectional area of all orifices provided in said electrode is in the range from 20% to 70% of the area which is formed by the height and width of the metal electrode.

9. An electrode according to Claim 6, wherein the metal electrode has a corrugated, zigzag-shaped or rectangular cross section.

10. An electrode according to Claim 6, wherein the metal electrode has a depth of at least 1 mm.

11. An electrode according to Claim 6, wherein the metal electrode comprises two expanded metals adjacent to one another, wherein one of said expanded metals is more finely structured than the second expanded metal, the more finely structured expanded metal being rolled flat and the second expanded metal being arranged such that mesh webs thereof are inclined and serve as said guide.

12. An electrochemical cell comprising a metal electrode as claimed in claim 6.

13. A method for conducting an electrolysis operation comprising employing an electrode according to claim 6.

14. A method for conducting an electrolysis operation comprising employing an electrochemical cell according to claim 12.

15. A method for conducting an electrolysis operation comprising employing an electrochemical cell according to claim 1.

16. An electrochemical cell according to claim 12, comprising an anode of a titanium-palladium alloy and a cathode based on carbon.

17. A method for reducing the voltage required in the electrolysis of aqueous solutions of hydrogen chloride comprising employing an electrode according to claim 6.

18. A method for reducing the voltage required in the electrolysis of aqueous solutions of hydrogen chloride comprising employing an electrochemical cell according to claim 12.

19. A method for carrying out the electrolysis of an aqueous solution of hydrogen chloride comprising employing an anode comprising a combination of at least two expanded metals, one of said expanded metals being more finely structured than the other of said expanded metals.

20. A method according to claim 19, wherein said method permits use of a voltage of less than 1.67 V when a current density of 5 kA/m^2 is employed.